

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): John C. Dalrymple Confirmation No.: 8324
Serial No.: 09/667,964 Examiner: James A. Thompson
Filed: September 21, 2000 Group Art Unit: 2624
For: METHOD OF IMPROVING START-UP BEHAVIOR FOR
COLOR ERROR DIFFUSION DIGITAL HALFTONING
Date: May 29, 2007

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Applicant requests review of the final rejection in the above-identified application.
No amendments are being filed with this request.

This request is being filed with a Notice of Appeal.

This review is requested for the reasons states on the attached sheets.

I am the:

☒ attorney or agent of record

Total of one forms are submitted.

Customer No. 46404

Respectfully submitted,



Bryan D. Kirkpatrick
Reg. No. 53,135

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ARGUMENTS IN SUPPORT OF PRE-APPEAL BRIEF

The final rejection of all claims 16 and 18-30 is traversed, however grounds for traversal of the rejection are separately argued for claims 16, 18, 24, 26 and 29. References to the “Response” refer to Applicant’s amendment dated December 21, 2006. References to the “Office Action” refer to the Office Action dated March 8, 2007.

The pending application is directed to a printing system using digital halftoning with error diffusion. The error diffusion includes generating a set of random seed values to initialize one or more error buffers associated with an array of pixels for a digital image.

Ground 1. *Cited references do not disclose generating two or more independent random seed values for an error diffusion operation of a digital image.*

Claims 16, 18, 24 and 29 were rejected in part based on the Examiner’s assertion that this feature was taught, suggested or disclosed by the cited references.

In the Response page 8, first two paragraphs, Applicant argued that Brown’s single reference to a scanner that makes “color separations of the image” does not disclose multiple,

different random seed values recited by claim 29. Applicant argued that one skilled in the art would understand the system of Brown according to the conventional manner described in Applicant's background section, where color error diffusers have identical seed values. Examiner responded by stating that "the use of multiple, separate color planes demonstrates that there are multiple different random seed values, since there would be a random seed value for each color plane (page 2, third paragraph of the Office Action).

However, this is purely speculative on the part of the Examiner. Brown's invention is primarily directed to monochrome and halftone images, not color images. Brown does not assert any reason why different seed values would be used for separate color planes, and there is no indication that Brown considered that error diffusion for color planes would operate any differently than the error diffusion disclosed for halftone images. In any event, Brown's passing comment on color planes cannot be relied upon to teach, suggest or disclose a feature which was heretofore unknown and would not be appreciated as being taught by one skilled in the art. Applicant can only surmise that the Examiner applied hindsight using Applicant's own disclosure to speculate about the significance of Brown's reference to the separate color planes as teaching the multiple different random seed values.

Since the multiple random seed values are not disclosed by any of the references, the further features of claims 16, 18, 24 and 29 directed to initializing the error buffers with the multiple random seed values are also not disclosed.

Ground 2. *Cited references do not disclose adjusting the random seed values prior to starting the error diffusion operation.*

Claims 16, 18, 24 and 29 were rejected in part based on the Examiner's assertion that this feature was taught, suggested or disclosed by the cited references.

In the Response page 10, first two paragraphs, Applicant argued that the Lau reference relied upon by Examiner, does not disclose adjusting the random seed values prior to starting an error diffusion operation as recited by claim 16. Applicant provided multiple reasons why Lau failed to disclose this feature in order to further prosecution of this application. Rather than address these arguments, Examiner elected to ignore them as being directed to claim amendments, despite the fact that Examiner cited the same reference again to reject claim 16.

The Examiner succinctly identifies the problem with Lau and Brown in stating that "since if said adjusting does not occur prior to starting the error diffusion operation, then said random seed values used in said initializing would not be adjusted random seed values per

the combination of Brown and Lau.” Applicant couldn’t agree more. The adjusting of Lau does not occur prior to error diffusion operation, as argued by Applicant, and furthermore it is not the random seed values that are being adjusted.

According to Applicant’s argument provided at page 10, first two paragraphs of the Response, Lau teaches that the adjustment of probability is performed after the pixels are operated on. Clearly the error diffusion operation has already been initiated by Lau once the pixels have been operated on. The rejection is therefore traversed for the same arguments of record.

Ground 3. *Cited references do not disclose adjusting relatively large seed values to increase the likelihood that dots will be printed sooner.*

Claims 16, 18, 26 and 29 were rejected in part based on the Examiner’s assertion that this feature was taught, suggested or disclosed by the cited references

In the Response at page 10 third paragraph, Applicant argued that the Figure 12 of Lau failed to disclose adjusting large seed values in order to print “a dot sooner when a transition occurs between a zero image region and a non-zero region” and instead that the Figure 12 of Lau illustrates the results of controlling an amount of overlap between pixels of different colors. The Figure 12 reference to overlapping colors does not address a transition between a zero image region and a non-zero region.

Despite that fact that Applicant’s argument provided at page 10 third paragraph is directed to a claim feature which was previously presented in claim 16 being argued therein, Examiner elected not to respond to the argument (page 2 final paragraph of the Office Action), since the claim was amended. Instead, the Examiner merely repeated a prior argument of record discussing a probability function that causes dots to be highly dispersed. This prior argument is neither supported by Lau, nor dispositive of Applicant’s argument against the rejection. To the contrary, Lau describes “uniformly distributed random numbers”, as discussed in the Response page 10, final paragraph. The Examiner failed to address Applicant’s argument or provide a substantive basis for the rejection based on this ground.

The applicant asserts all arguments made previously, whether or not explicitly discussed herein, to preserve the right to assert these arguments in the Appeal Brief.

Respectfully submitted

A handwritten signature in cursive script that reads "Bryan D. Kirkpatrick". The signature is written in dark ink and is positioned above a horizontal line.

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